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(54) Breathing tube apparatus

(57) An apparatus and method employing a syringe (20) mounted splittable needle (10) insertable through body tissue to provide a percutaneous passage through the body tissue and into a cavity such as a trachea. After insertion of the needle (10), the syringe (20) is separated from the needle (10) and a dilator (22) is fitted in its place. The distal extremity of the dilator (22) includes a leader (24) which extends through the needle (10) and into the trachea. The midportion of the dilator (22) supports the distal extremity of a flexible, ultra thin trachea tube (30). The tube (30) is large enough in diameter that it can be fitted over the distal end of the dilator (22) and moved in a proximal direction toward the dilator (22) midportion. Further movement onto the dilator (22) is prevented by engagement of a smaller diameter distal extremity of the tube (30) with a larger diameter stop section located on the dilator (22) midportion adjacent its distal extremity. The needle (10) is split to allow separation of the needle (10) from the dilator (22) and tube (30), followed by thrusting of the dilator (22) and tube (30) farther into the trachea. The dilator (22) is then withdrawn to leave the tube (30) in position within the trachea for ventilation of the trachea upper airway. An annular inflatable cuff (26) is affixed to the trachea tube (30) for occluding the space between the trachea tube (30) and the inner tracheal wall, and for providing additional stiffness at the distal end of the trachea tube (30).

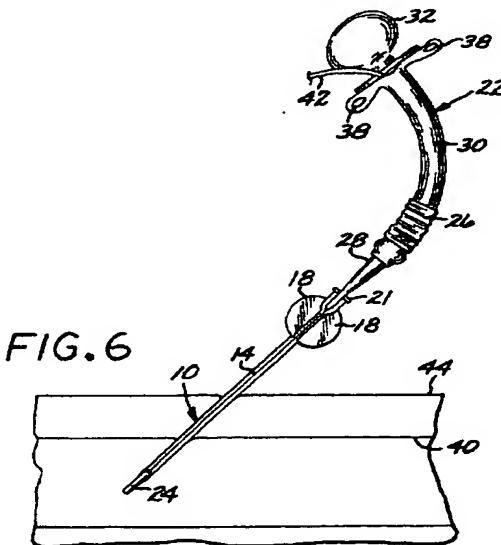


FIG. 6



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PARTIAL EUROPEAN SEARCH REPORT

Application Number

which under Rule 45 of the European Patent Convention
shall be considered, for the purposes of subsequent
proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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INCOMPLETE SEARCH			
<p>The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims.</p> <p>Claims searched completely : 1-8</p> <p>Claims searched incompletely :</p> <p>Claims not searched : 9-10</p> <p>Reason for the limitation of the search: Method of treatment of the human body by surgery, Article 52(4) EPC</p>			
Place of search MUNICH	Date of completion of the search 30 October 2001	Examiner Valfорт, С	
CATEGORY OF CITED DOCUMENTS			
<p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>			

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